

**DRAFT
DIRECTIVE**

Directive: NPD 9501.3A

Effective Date: NONE

Expiration Date: NONE

184 FORM

DRAFT

REVIEWS

CONCURRENCE

Responsible Office: BR / Resources Analysis Division

Subject: Earned Value Management**1. POLICY**

a. It is NASA policy to apply Earned Value Management (EVM) to NASA contracts to ensure that contractor management systems provide the contractor and the Government program and project managers with accurate data from which to make responsible management decisions. EVM is a commonly used performance measurement tool for program and project managers that integrates cost, schedule, and technical performance to enable effective program planning and control.

b. The Cognizant Contracting Officer shall recognize the use of any management system used by a contractor in planning and controlling the performance of significant contracts, as long as that system complies with one of the standards listed in paragraph d. below. The Center Program Management Council (PMC) may waive compliance with this requirement for a contractor as long as a copy of the decision and rationale is provided to the Agency Chief Financial Officer (CFO).

c. Significant contracts are cost reimbursement research and development contracts with a total anticipated final value of \$70 million or more; or cost reimbursement production contracts (e.g., manufacture of External Tanks) with a total anticipated final value of \$300 million or more. Use of the Cost Performance Report (CPR) or equivalent is required on significant contracts or when criteria-based EVM is applied to a NASA contract. Guidance for preparing the Data Requirements Description (DRD) for the CPR is contained in NPG 9501.XX, Earned Value Management Implementation on NASA Contracts.

d. The contractor must supply evidence that the NASA contracting officer or delegated Government contracting representative (e.g., the Defense Contract Management Agency (DCMA)) has recognized that the management system used in planning and controlling the performance of NASA contracts complies with one of the following standards:

(1) The NASA EVM Criteria, shown as Attachment A;

(2) DoD 5000.2R, Mandatory Procedures for Major Defense Acquisition Programs and Major Automated Information Systems Acquisition Programs; or

(3) American National Standards Institute (ANSI)/Electronic Industries Alliance (EIA) Standard 748-98, Industry Guidelines for Earned Value Management Systems.

e. Criteria-based EVM is not required on cost reimbursement research and development contracts with a total anticipated final value greater than \$25 million but less than \$70 million, or cost reimbursement production contracts less than \$300 million. However, EVM (Modified Criteria-based)

is required on these contracts and is optional at the discretion of the Center Director on research and development contracts if the total anticipated final contract value will be \$25 million or less. Use of the Modified Cost Performance Report (MCPR) or equivalent is required when Modified Criteria-based EVM is applied. Guidance for preparing the DRD for the MCPR is contained in NPG 9501.XX, Earned Value Management Implementation on NASA Contracts.

f. EVM is not required on NASA contracts other than NASA cost reimbursement or incentive-type contract instruments as defined above. However, EVM may be applied to any NASA contract if the performance risk or management interest indicates that it is necessary to ensure effective program or project management.

g. EVM is not required on contracts with a period of performance of less than 1 year.

2. APPLICABILITY

a. This NPD is applicable to NASA Headquarters and NASA Centers, including Component Facilities, and to the Jet Propulsion Laboratory to the extent specified in the contract.

b. This NPD shall apply to all NASA contracts awarded after the effective date of this NPD.

3. AUTHORITY

a. 42 U.S.C. 2473 (c)(1), Section 203 (c)(1) of the National Aeronautics and Space Act of 1958, as amended.

b. 31 U.S.C. 902 (Section 205(a) of the Chief Financial Officers Act of 1990, Public Law 101-576, as amended).

4. REFERENCE

a. NPG 9501.XX, Earned Value Management Implementation on NASA Contracts

b. DCMA Handbook 2.2-1, Earned Value Management Implementation Guide

c. DoD Cost/Schedule Status Report (C/SSR) Joint Guide, Cost/Schedule Management of Non-Major Contracts (May 1, 1996)

d. NASA FAR Supplement 1842.74, Earned Value Management

e. NASA FAR Supplement 1852.242-74, Notice of Earned Value Management System

f. NASA FAR Supplement 1852.242-75, Earned Value Management Systems

g. NASA FAR Supplement 1852.242-76, Modified Cost Performance Report

h. NASA FAR Supplement 1852.242-77, Modified Cost Performance Report Plans

i. NPG 7120.5X, NASA Program and Project Management Processes and Requirements

j. ANSI/EIA Standard 748-98, Industry Guidelines for Earned Value Management Systems

k. DoD 5000.2R, Mandatory Procedures for Major Defense Acquisition Programs and Major Automated Information Systems Acquisition Programs

1. NPG 1441.1, NASA Records Retention Schedules

5. RESPONSIBILITY

a. The Chairperson of the NASA PMC is the policy official ultimately responsible for the review of EVM implementation within NASA. The responsibility for implementing EVM as a program management tool resides with each Center PMC.

b. NASA Center Directors are responsible for effective coordination of implementation of EVM and use of EVM data among procurement, financial, resources, technical, and project managers at their respective Centers.

c. The Agency CFO is responsible for establishing Principal Center assignments for areas of responsibility of the CFO. The Principal Center for EVM is responsible for ensuring that EVM training is available to employees responsible for implementation of this policy within NASA projects.

d. NASA Project Managers are responsible for ensuring proper implementation and the use of EVM on all required contracts and for ensuring that resource analysts and contract administrators supporting their programs and projects receive formal EVM training.

e. The Marshall Space Flight Center (MSFC) is designated as the Principal Center for Earned Value Management and serves as the NASA Earned Value Management Focal Point (EVMFP). Each NASA Center and the Jet Propulsion Laboratory shall designate an EVMFP to support earned value implementation.

f. If it is demonstrated that EVM methodologies are impractical or unnecessary for a particular contract, the Center PMC may waive the application of EVM on the contract. If EVM implementation is waived, a copy of the decision and rationale will be provided to the Agency CFO.

(1) For a waiver request before contract award, the NASA Project Office shall submit the waiver request to the Center CFO prior to the Acquisition Strategy Meeting. The Project Office, with concurrence of the CFO, will decide at the Acquisition Strategy Meeting whether a waiver should be requested. If no Acquisition Strategy Meeting is held, the NASA Project Office, with concurrence of the CFO, may submit a waiver request, and should document the waiver request in the written acquisition plan.

(2) If the PMC approves a waiver submitted after contract award, the NASA Project Office must obtain the concurrence of the Center CFO and approval of the NASA Center Director prior to the contract modification discontinuing EVM reporting.

(3) The NASA Contracting Office shall ensure that any waivers of EVM are formally documented in the official procurement file and measured for reporting compliance with this directive.

6. DELEGATION OF AUTHORITY

a. The PMC Chairperson has delegated the authority to promulgate and monitor the implementation of this policy to the Agency CFO.

b. The authority to waive contractor EVM system compliance prior to contract award is the responsibility of the Center PMC, as discussed in paragraph 5(f)(1).

c. The authority to waive EVM system compliance after contract award on NASA contracts is the Center PMC, as discussed in paragraph 5(f).

7. MEASUREMENTS

The NASA EVMFP shall measure and report compliance with this directive.

8. CANCELLATION

NPD 9501.3, Earned Value Performance Management, dated February 18, 1997.

NOT SIGNED Administrator

ATTACHMENT A: (TEXT)

NASA Earned Value Management (EVM) Criteria

When Criteria-based EVM is applied to a contract, the contractor's management control systems shall include policies, procedures, and methods that are designed to ensure that they will meet the criteria set forth below.

When Modified Criteria-based EVM is applied to a contract, the contractor's management control system shall include at a minimum policies, procedures, and methods that are designed to ensure that they will meet the criteria that are followed by the words "Modified Criteria."

(1) Organization

(a) Define the authorized work elements for the program. A Work Breakdown Structure (WBS), tailored for effective internal management control, is commonly used in this process.

(b) Identify the program organizational structure, including the major subcontractors responsible for accomplishing the authorized work, and define the organizational elements in which work will be planned and controlled.

(c) Provide for the integration of the company's planning, scheduling, budgeting, work authorization, and cost accumulation processes, and as appropriate, the program WBS and the program organizational structure.

(d) Identify the company organization or function responsible for controlling overhead (indirect costs).

(e) Provide for integration of the program WBS and the program organizational structure in a manner that permits cost and schedule performance measurement by elements of either or both structures as needed.

(2) Planning and Budgeting

(a) Schedule the authorized work in a manner which describes the sequence of work and identifies significant task interdependencies required to meet the requirements of the program. Modified Criteria

(b) Identify [and define] physical products, milestones, technical performance goals, or other indicators that will be used to measure progress.

(c) Establish and maintain a time-phased budget baseline, at the control account level, against which program performance can be measured. Budget for far-term efforts may be held in higher level accounts until an appropriate time for allocation at the control account level. Initial budgets established for performance measurement will be based on either internal management goals or the external customer-negotiated target cost including estimates for authorized but undefinitized work. On Government contracts, if an over-target baseline is used for performance measurement reporting purposes, prior approval must be obtained from the Government contracting officer. Modified Criteria

(d) Establish budgets for authorized work with identification of significant cost elements (e.g., labor, material) as needed for internal management and for control of subcontractors. Modified Criteria

(e) To the extent it is practical to identify the authorized work in discrete work packages, establish budgets in terms of dollars, hours, or other measurable units. Where the entire control account is not subdivided into work packages, identify the far-term effort in larger planning packages for budget and scheduling purposes.

(f) Ensure that the sum of all work package budgets plus planning package budgets within a control account equals the control account budget.

(g) Identify and control level-of-effort activity by time-phased budgets established for this purpose. Only that effort which is unmeasurable or for which measurement is impractical may be classified as level of effort.

(h) Establish overhead budgets for each significant organizational component of the company for expenses which will become indirect costs. Reflect in the program budgets, at the appropriate level, the amounts in overhead pools that are planned to be allocated to the program as indirect costs.

(i) Identify [and control use of] management reserves and undistributed budget. Modified Criteria

(j) Ensure that the program target cost goal is reconciled with the sum of all internal program budgets and management reserves.

(3) Accounting Considerations

(a) Record direct costs in a manner consistent with the budgets in a formal system controlled by the general books of account [and consistent with the contractor's approved Cost Accounting Disclosure Statement(s)]. Modified Criteria

(b) When a WBS is used, summarize direct costs from control accounts into the WBS without allocation of a single control account to two or more WBS elements.

(c) Summarize direct costs from the control accounts into the contractor's organizational elements without allocation of a single control account to two or more organizational elements.

(d) Record all indirect costs that will be allocated to the contract. Modified Criteria

(e) Identify unit costs, equivalent units costs, or lot costs when needed.

(f) For Earned Value Management Systems (EVMS), the material accounting system will provide for the following:

- i. Accurate cost accumulation and assignment of costs to control accounts in a manner consistent with the budgets using recognized, acceptable, costing techniques.
- ii. Cost performance measurement at the point in time most suitable for the category of material involved, but no earlier than the time of progress payments or actual receipt of material.
- iii. Full accountability of all material purchased for the program, including the residual inventory.

(4) Analysis and Management Reports

(a) At least on a monthly basis, generate the following information at the control account and other levels as necessary for management control using actual cost data from, or reconcilable with, the accounting system:

- i. Comparison of the amount of planned budget and the amount of budget earned for work accomplished. This comparison provides the schedule variance. Modified Criteria
- ii. Comparison of the amount of the budget earned and the actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance. Modified Criteria

(b) Identify, at least monthly, the significant differences between both planned and actual schedule performance and planned and actual cost performance and provide the reasons for the variances in the detail needed by program management. Modified Criteria

(c) Identify budgeted and applied (or actual) indirect costs at the level and frequency needed by management for effective control, along with the reasons for any significant variances. Modified Criteria

(d) Summarize the data elements and associated variances through the program organization and/or WBS to support management needs and any customer reporting specified in the contract.

(e) Document managerial actions taken as the result of earned value information.

(f) Develop revised estimates of cost at completion based on performance to date, commitment values for material, and estimates of future conditions. Compare this information with the performance measurement baseline to identify variances at completion that are important to company management and any applicable customer reporting requirements including statements of funding requirements. Modified Criteria

(g) Maintain, manage, and safeguard all records/reports, when appropriate, according to the guidance provided in NPG 1441.1, NASA Records Retention Schedules, and dispose of the records according to these schedules.

(5) Revisions and Data Maintenance

(a) Incorporate authorized changes in a timely manner, recording the effects of such changes in budgets and schedules. In the directed effort prior to negotiation of a change, base such revisions on the amount estimated and budgeted to the program organizations. Modified Criteria

(b) Reconcile current budgets to prior budgets in terms of changes to the authorized work and internal replanning in the detail needed by management for effective control.

(c) Document retroactive changes to records pertaining to work performed that would change previously reported amounts for actual costs, earned value, or budgets. Adjustments should be made only for correction of errors, routine accounting adjustments, effects of customer or management

directed changes, or to improve the baseline integrity and accuracy of performance measurement data.

(d) Prevent revisions to the program budget except for authorized changes.
Modified Criteria

(e) Document changes to the performance measurement baseline. Modified Criteria

(URL for Graphic)

None.
